

From: Paul Cann
Sent: 16 February 2018 11:59
To: Planning.Responses
Subject: RE: Planning Consultation on EG/12/18/DOC

Condition can be discharged, based upon the details submitted and the revised details forwarded to Richard Temple today - copies enclosed.

Paul Cann
Senior Engineer (Drainage & Coastal)

Paul Cann | Senior Engineer (Drainage & Coastal), Engineering Services, Arun District Council | Location: First Floor, Arun Civic Centre, Maltravers Road, Littlehampton, BN17 5LF
Internal: 37819 | External: +44 (0) 1903 737819 | Fax: +44 (0) 1903 716019 | E-mail: Paul.Cann@arun.gov.uk
Arun is Working in Partnership with Chichester District Council
Visit Arun's web site at <http://www.arun.gov.uk/> and www.chichester.gov.uk



Save the environment - think before you print.

From: planning.responses@arun.gov.uk [<mailto:planning.responses@arun.gov.uk>]
Sent: 13 February 2018 09:03
To: Paul Cann
Subject: Planning Consultation on EG/12/18/DOC

To: Engineers (Drainage)

NOTIFICATION FROM ARUN DISTRICT COUNCIL

TOWN AND COUNTRY PLANNING ACT 1990

APPLICATION NO: EG/12/18/DOC

Registered: 08-FEB-18

Site Address: 10 Elm Grove Barnham PO22 0HJ

Description of Works: Approval of details reserved by condition imposed under EG/96/17/HH relating to condition 3-surface water drainage scheme.

The Council have received the above application to discharge conditions. I shall be pleased to receive any observations you may wish to make in respect of those conditions relating to your field of expertise.

[Click here to view the Discharge of Condition application](#)

[Click here to view conditions on original application - click on decision tab](#)

Should you have any comments to make, these should be sent by replying to this email by 27th February 2018.

www.arun.gov.uk/planning

Please be aware that any comments you may make will be available on our website so please do not insert personal details or signatures on your reply.

In the absence of a reply within the period stated, I shall assume that you have no observations to make.

The officer dealing with this application is Richard Temple who can be contacted on telephone number 01903 737591.

Thanking you in anticipation

Planning Case Officer
Arun District Council

post_con_email

Robert Clark Associates				Page 1																																																																																																																																																																																																																			
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Robert Clark Associates				Page 2	
Willow Cottage Herne Lane Rustington BN16 3EE		10 Elm Grove Barnham Rear Soakaway			
Date 25.1.18 File Rear geocell.SRCX		Designed by RTFC Checked by			
Micro Drainage		Source Control 2016.1			
Summary of Results for 100 year Return Period (+30%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	7.500	0.300	0.2	3.0	0 K
60 min Winter	7.563	0.363	0.2	3.6	0 K
120 min Winter	7.605	0.405	0.2	4.0	Flood Risk
180 min Winter	7.609	0.409	0.2	4.1	Flood Risk
240 min Winter	7.603	0.403	0.2	4.0	Flood Risk
360 min Winter	7.583	0.383	0.2	3.8	0 K
480 min Winter	7.560	0.360	0.2	3.6	0 K
600 min Winter	7.535	0.335	0.2	3.3	0 K
720 min Winter	7.510	0.310	0.2	3.1	0 K
960 min Winter	7.463	0.263	0.2	2.6	0 K
1440 min Winter	7.383	0.183	0.2	1.8	0 K
2160 min Winter	7.296	0.096	0.2	1.0	0 K
2880 min Winter	7.250	0.050	0.2	0.5	0 K
4320 min Winter	7.237	0.037	0.1	0.4	0 K
5760 min Winter	7.229	0.029	0.1	0.3	0 K
7200 min Winter	7.225	0.025	0.1	0.2	0 K
8640 min Winter	7.221	0.021	0.1	0.2	0 K
10080 min Winter	7.219	0.019	0.1	0.2	0 K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	77.804	0.0	32		
60 min Winter	49.937	0.0	60		
120 min Winter	30.956	0.0	116		
180 min Winter	23.058	0.0	168		
240 min Winter	18.577	0.0	190		
360 min Winter	13.656	0.0	268		
480 min Winter	10.974	0.0	342		
600 min Winter	9.254	0.0	416		
720 min Winter	8.046	0.0	490		
960 min Winter	6.447	0.0	626		
1440 min Winter	4.709	0.0	892		
2160 min Winter	3.432	0.0	1236		
2880 min Winter	2.739	0.0	1496		
4320 min Winter	1.989	0.0	2204		
5760 min Winter	1.583	0.0	2936		
7200 min Winter	1.325	0.0	3672		
8640 min Winter	1.147	0.0	4408		
10080 min Winter	1.015	0.0	5144		
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Micro Drainage Source Control 2016.1		

Model Details

Storage is Online Cover Level (m) 7.900

Cellular Storage Structure

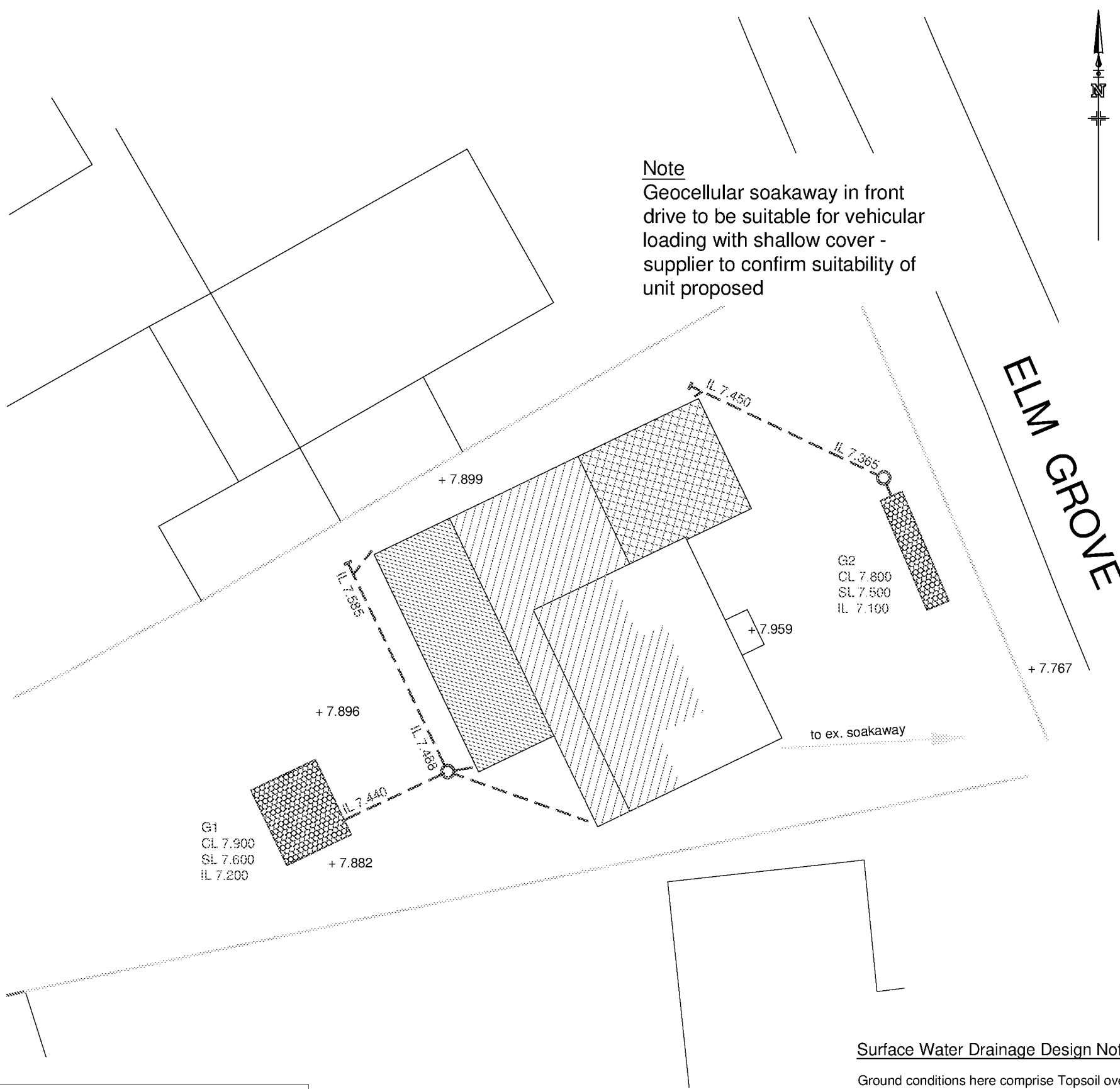
Invert Level (m)	7.200
Infiltration Coefficient Base (m/hr)	0.07700
Infiltration Coefficient Side (m/hr)	0.07700
Safety Factor	1.5
Porosity	0.95

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	10.5	10.5	0.500	0.0	15.7
0.400	10.5	15.7			

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ARUN DISTRICT COUNCIL EG-12/18/DOC



NOTE

This drawing had been produced for discharge of planning conditions only. All levels and details to be checked for Building Regulations approval and construction purposes

Plan - scale 1:200

Surface Water Drainage Design Notes

Ground conditions here comprise Topsoil over River Terrace Deposits (soft to firm silty sandy clays) over London Clay. The River Terrace Deposits were found at 0.30 to 0.35m below ground level and were found to comprise soft to firm silty clays with some gravel. The London Clay was not encountered in test holes that extended to just 700mm below ground level when groundwater was encountered during the investigations in mid January 2018.

The drainage design is based on percolation tests carried out to BRE 365 principles in two separate test holes in mid January 2018. An average soil infiltration rate of 2.139×10^{-5} m/s was obtained, to which a factor of safety of 1.5 has been applied. One test in another pit gave a much higher rate of 7.092×10^{-4} m/s but this was discounted as it was thought to be an anomaly in the normal ground conditions, possibly due to an existing soakaway being close by.

A shallow geocellular soakaways have been designed, each using 400m deep geocells, which will be suitable to drain the new extensions and existing roof areas (hatched) to the dwelling without flooding on a 1 in 100 year rainfall event + 30% climate change addition.



Location plan - scale 1:1000

KEY

- Proposed storm drainage
100mm dia at min 1:100
- Proposed silt trap inspection chamber
- Surface water rodding eye
- Proposed geocellular soakaways in 400mm deep units
- New extension to be drained to geocell G1
- Existing roof areas to be drained to geocell G1
- New roof areas to be drained to geocell G2
- +7.873 Existing ground levels in meters AOD
- SL 7.480 Soffit (top) level of geocells
- BL 7.080 Base level of geocells
- IL 7.480 Invert level of surface water drains

A	Hatching, Key and RE u/s of G2	RTFC	16.2.18
-	Original	RTFC	6.2.18
Rev.	Description	Drm.	Date

Project
10 Elm Grove Barnham West Sussex

Client
Mr and Mrs Fulton
Drawing Title
Surface Water Drainage

Robert Clark Associates Ltd Chartered Civil Engineers Willow Cottage, Herne Lane, Rustington West Sussex BN16 3EE
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Scale	As shown	At original	A3
Drawing Number	1770/D1.1	Revision	A